

(No. 1166) pp. 416-417, collected at Enfield, near Oamaru, South Island, New Zealand.

*Conclusion:* These nomenclatorial notes do not alter any previous hypothesis which may indicate that the fossil bone from New Zealand could belong to the Recent species *B. lobata* of Australia; they do, however, require that in future the specific name *B. delautouri* be recognized and incorporated into the synonymy of *B. lobata* not only because the type validity is shown to be justified but also to ensure that Forbes' original description is not again overlooked.

As a footnote, I would add that it is surprising to find that no recent author has examined the Pleistocene tarsometatarsus of the palaeospecies *B. exhumata* from Darling Downs, Queensland. De Vis (1889) describes the bone as being only two thirds the size of a ♂ *B. lobata* tarsometatarsus, but a humerus found later in South Australia and attributed also to *B. exhumata* was said (De Vis 1906) to be "larger but not greatly so" than *B. lobata*, a description which could well fit also the New Zealand fossil (Harrison & Walker 1970 p. 10).

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## The Cambridge collection from the Malagasy Region

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Gadow (*Ibis*, 1910: 47-53) has given an account of the ornithological collections in the University Museum of Zoology, Cambridge. Mention is made of *The Madagascar Collection*, consisting of 826 skins, made by Sir Edward Newton (brother of Prof. A. Newton). In the present paper reference is made to the more interesting *skins* from the Malagasy Region, using this term in the same sense as in A. L. Thomson (ed.) (*New Dict. Birds*, 1964: 443-444). Gadow also refers to osteological specimens, some of them from Mauritius (see especially E. Newton & Gadow, *Trans. Zool. Soc. Lond.* 13, 1893: 281-302, and Hachisuka, 1953). Such material, not forgetting that also from Rodriguez, is justly famous, but is outside the scope of the present paper. The skin collection actually comprises 1,093 specimens, divisible as follows: Rodriguez 28; Mauritius 222; Réunion 40; Madagascar 562; Comoro Archipelago (Grand Comoro and Anjouan only) 114; Aldabra Archipelago 16; Amirante Islands 7; Seychelles 104. The collection was

started by Sir E. Newton (he was knighted in 1887), who served in the Colonial Service in Mauritius from 1859 to 1877. During this time he himself visited Rodriguez, Madagascar and the Seychelles, and at his instance C. E. Bewsher visited Anjouan, in the Comoros. After he left Mauritius, his brother continued to add to the collection, through contacts mainly on the continent of Europe. A register of the collection still exists, the last entry by the Professor being dated 1905. There are accounts of the careers of the Newton brothers in *Ibis*, 1908, Jubilee Suppl.: 107-120. It is some testimony to them that of the 27 forms listed in Appendix 1 below only one is not now recognised.

I am indebted to Dr. F. R. Parrington, F.R.S., the late Director of the University Museum of Zoology, Cambridge, his successor, Dr. K. A. Joysey, and R. D. Norman, Senior Assistant, for facilitating my examination of the collection. Dr. Joysey also criticised a draft of this paper. Thanks are also due to Prof. W. H. Thorpe, F.R.S., and Drs. W. R. P. Bourne and D. L. Serventy, for their interest. I am also grateful to the authorities in the British Museum (Natural History), London, and the Muséum National d'Histoire Naturelle, Paris, for access to material under their care; and to Dr. Ch. Erard for drawing my attention to a catalogue of forms extinct or nearly so in the latter museum (Jouanin, 1962). This paper is not referred to by Greenway (1967), but nonetheless is important.

Except as qualified, the nomenclature followed is that of Peters *et al.* (1931-70).

#### Forms of particular interest in the collection

*Puffinus lherminieri bailloni* (Bonaparte): Rountree *et al.* (1952: 157) consider there is no proof of its occurrence on Mauritius, while Watson *et al.* (1963: 140) are doubtful. There are three specimens therefrom in Cambridge; one from Plaine Wilhems, 8th June, 1860, and two from Coromandel, 25th and 29th August, 1865. They have been seen by Dr. C. Jouanin, and it is expected that he will consider them in a study of this species. R. Newton (1958: 48) quotes testimony that it breeds on Mauritius, but doubts if it still does so.

*Pterodroma aterrima* (Bonaparte): One of the few specimens in existence is in Cambridge, and is included in a study by Jouanin (*Oiseau*, 1970: 48-68).

*Pachyptila belcheri* (Mathews): A specimen from Grand Port, Mauritius, collected in 1866 (no month given), has been identified as such by Dr. Serventy. It has wing 173; culmen (exposed) 24; width of bill at base 10 mm. It was originally identified by Hartlaub (1877: 377) as *Prion turtur*, Sol. (sic). Rountree *et al.* (1952: 165) also use the specific name *turtur*. The differences between the various species are given by Serventy & Whittell (*Birds W. Australia*, 1967: 83).

*Fregatta tropica* (Gould): Roch & E. Newton (*Ibis*, 1863: 175, as *Thalassidroma melanogaster* Gould) record this species between Mauritius and Tamatave. The specimen to which they refer is labelled 24th September 1861, 120 miles east of Tamatave. According to Dr. Serventy, who has seen it, no subspecies are recognisable. This and other records from the western Indian Ocean are referred to by Bailey (*Ibis*, 1968: 508).

*Fregata minor aldabrensis* Mathews, *F. ariel iredalei* Mathews: Only the latter is accepted for Mauritius by Rountree *et al.* (1952: 168). There is an immature specimen, sexed ♂, from Cannonier's Point, Mauritius, collected by

Dr. W. H. Power on 13th February, 1865. It has wing 620; culmen (from base) 117, (exposed) 110 mm. From these measurements it would appear to be *F. m. aldabrensis*, not *F. a. iredalei*. Another specimen obtained by the same collector at the same place the following day, sexed ♀, apparently in adult plumage, is however *F. a. iredalei*. It has an unusually long wing-length of 571, but culmen measurements are (from base) 93, (exposed) 87 mm. only. Both species are recorded by Newton (1958: 51) and by Staub & Gueho (*Proc. Roy. Soc. Arts and Sci. Maurit.* 3(1), 1968: 18) as breeding in the Cargados Carajos Archipelago, so that the occasional occurrence of both on Mauritius is not surprising. Incidentally, Forbes-Watson (*Atoll Res. Bull.* 128, 1970: 8) records seeing a pair of *F. ariel* off Moheli, in the Comoros, and Lowe (*Nov. Zool.* 31, 1924: 312) records a specimen of *F. a. iredalei* from the archipelago.

*Sula abbotti* Ridgway: There are two specimens from Assumption, in the Aldabra Archipelago, received from J. C. F. Fryer in 1911. The species is only now known from Christmas Island, in the eastern Indian Ocean, and the only other specimen from Assumption is the holotype. Gibson-Hill (*Bull. Raffles Mus.* 23, 1950: 65-76) has discussed fully the two Cambridge specimens.

*Ardeola ralloides ralloides* (Scopoli): It is not recorded from Mauritius by Rountree *et al.* (1952). Benson *et al.* (1970: 3), who give reasons for employing a trinomial, have drawn attention to a specimen collected there in May 1872. It is in winter dress.

*Ixobrychus sinensis* (Gmelin): Loustau-Lalanne (1963: 15) records it as common in the Seychelles, on Mahé, Praslin and La Digue. Two specimens collected by E. Newton on Mahé, 26th January, 1867, recorded by him (1867: 343) as *Ardeola lepida*, are available in Cambridge. There are also three from Mahé in Paris, collected by Lantz, two of them mounted and undated, the other dated October 1877, and presumably the specimen referred to by Salomonsen (*Proc. Zool. Soc. Lond.*, 1934: 222). Measurements in mm. of these specimens are:

|   | Wing | Culmen from base<br>Cambridge | Tarsus |
|---|------|-------------------------------|--------|
| ♂ | 146  | 57                            | 52     |
| ♀ | 130  | 53                            | 44     |
|   |      | Paris                         |        |
| ♂ | 130  | 58                            | 49     |
| ♂ | 134  | 58                            | 49     |
| ♀ | 133  | 56                            | 45     |

The sexing as above does not altogether agree with that of the collectors. Apparent ♂♂ are plain on the crown and mantle, whereas ♀♀ are streaked; and see Bock (*Amer. Mus. Novit.* 1779, 1956: 22) who found sexual differences in the genus as a whole. Salomonsen suggests that Seychelles specimens are relatively pale. Actually there does not appear to be any difference in either colour or size from Asiatic ones. A sample of material in London from India, Burma, Siam and Malaysia measures correspondingly as follows:

|      |                 |              |              |
|------|-----------------|--------------|--------------|
| 18♂♂ | 128-136 (131.9) | 53-63 (56.0) | 42-53 (48.6) |
| 13♀♀ | 125-146 (131.7) | 53-61 (57.2) | 46-51 (48.4) |

The Cambridge ♂ from the Seychelles has an unusually long wing, but

two of the Asiatic ♀♀ measure as much as 142, 146 mm. Incidentally, material in London from the Andaman and Nicobar Islands is relatively short-winged, the corresponding figures being:

|     |                 |              |              |
|-----|-----------------|--------------|--------------|
| 1♂  | 122             | 59           | 49           |
| 7♀♀ | 122-132 (127.0) | 53-58 (55.1) | 46-50 (48.0) |

Vaurie (1965: 58), who does not recognize any races, does not mention the occurrence of *I. sinensis* in the Seychelles. From the lack of any differentiation, it would seem to be a recent coloniser of the archipelago. Newton (*op. cit.*) was told that it laid white eggs, whereas Loustau-Lalanne (*op. cit.*) gives the colour as pale blue. The latter is probably more correct; see Ali & Ripley (*Handbook Birds India and Pakistan* 1, 1968: 87).

*Haliaeetus vociferoides* Des Murs: There is a tarsus and foot of this species, from Grand River, Mauritius, "end of 1859". The bird was caught alive, but as it had a wing broken it only lived a few days. Rountree *et al.* (1952: 188) mention that one was shot on Mauritius about 1867. The original source of this information was presumably Gurney (*Ibis*, 1869: 449), quoted by Hartlaub (1877: 6). In London there is a head, and tarsus and foot, merely marked "Mauritius. Sir Edward Newton", part of the Gurney collection of raptorial birds received from the Norwich Museum in 1955. D. Goodwin and I have compared the two tarsi and feet, and concluded that they could have come from the same individual. The head is marked as immature, but appears to be of an adult.

*Circus aeruginosus aeruginosus* (Linnaeus): A specimen from Mahé is referred to by Gaymer *et al.* (1969: 176). This appears to be the only record from the Malagasy Region.

*Falco peregrinus calidus* Latham: Rountree *et al.* (1952: 187) refer to a specimen of undetermined subspecies shot on Mauritius about 1865. What is apparently the same specimen, in Cambridge, actually dated 23rd December 1870, had been previously mentioned by Hartlaub (1877: 9). It is attributed by Benson & Penny (1970: 515) to *F. p. calidus*, and is apparently the only record of this subspecies from the Malagasy Region.

*Falco eleonora* Gén : Rountree *et al.* (1952: 188) record only *F. concolor* Temminck. A specimen in Cambridge from Mauritius which has always been supposed to be *concolor* is actually *eleonora* (see Benson & Penny, 1970: 515).

*Coturnix coturnix* near *africana* Temminck & Schlegel: Benson & Irwin (*Arnoldia, Rhodesia* 2(13): 13-14) could examine only seven specimens from Madagascar, which they named as above. Three of these are in Cambridge.

*Rallus philippensis ?australis* (Pelzeln): Rountree *et al.* (1952: 180) refer to a vagrant specimen from Champ de Mars, Mauritius killed in 1863. A specimen so labelled is available, except that it is dated 1873 (no month given). It is sexed ♂. Identification down to species level seems certain, even though the plumage is very worn, with most of the feathers of the crown and rump absent. But rufous chequering of the primaries, and rufous on the chest, sides of head and nape, as in *R. p. australis*, is apparent. It has been compared in London with 30 specimens of this form, which on geographical grounds is

the most likely. An alternative is *R. p. andrewsi* (Mathews), of the Cocos Keeling Islands. A single specimen of this form is much more blackish above, the mantle being wholly black, except that each feather is tipped with white, giving a barred appearance. The Mauritius specimen has the mantle olive spotted with white, as in *australis*. The wings are incomplete, but the culmen (from base) measures 37, the tarsus also 37 mm.

*Gallinula chloropus* subsp.: Benson (1960: 41) discussed variation in the Malagasy Region, and gave some measurements. A specimen in Cambridge from Mauritius—the holotype of *G. c. pyrrhorhoa* A. Newton—has wing 170, middle toe with claw 70 mm.; while two from the Seychelles both have wing 165, middle toe with claw 67, 68 mm. Another specimen also not previously available, in Paris, collected on Réunion in July 1952, measures respectively 168, 69 mm., and is *pyrrhorhoa*. I see no reason to change my earlier opinion that Seychelles birds are best placed with African *G. c. meridionalis* (Brehm). According to Gaymer *et al.* (1969: 175) the species is common on La Digue, less so on Mahé, Praslin, Curieuse and probably other islands. The first four islands apart, in London there are two specimens from St. Denis (Dennis), 26th August, 1907, and one from Cousin, 6th February, 1888; and in Paris two from Aride, August 1877.

There is a third specimen from the Seychelles in Cambridge. It died in the London Zoo on 20th December, 1870, and is the holotype of *G. dionysiana* A. Newton (*Dict. Birds*, 1893-96: 590, footnote). It was thought to represent a form which had partially lost the power of flight due to the shortening of the wings. Reference is made to *Proc. Zool. Soc. Lond.*, 1867: 1036, recording receipt of three *G. chloropus* from St. Denis, presented by E. Newton on 8th April, 1867. E. Newton himself (1867: 358, and *Trans. Norfolk and Norwich Nat. Soc.* 4, 1888: 552) refers to these three specimens. According to the earlier reference he thought they were 'normal *Gallinula chloropus*', but later he concluded they were a distinct form. After their arrival at the London Zoo, one escaped, another was killed and eaten by a gull, and the third, when it died, was so disfigured after its captivity of nearly four years that he forebore to describe it (this was done in due course by his brother). It would appear that E. Newton's original opinion was the correct one. One wing of the specimen measures only 130, the other 140 mm. But the tips of the primaries appear to have been cut off, and I see no reason to believe that it was originally in any way peculiar. Furthermore the two specimens in London from St. Denis already mentioned are normal, with wing-lengths 159, 171 mm. (the larger one was overlooked by Benson, 1960: 42, and has middle toe with claw 80 mm.). The holotype of *dionysiana* has the tarsus and feet missing from one leg, and the toes of the other are badly deformed. G. S. Cowles, of the British Museum (Natural History), has also examined this specimen, and agrees that it is merely a deformed *G. chloropus*.

*Porphyrio alleni* Thomson: Bourne (*Ibis*, 1968: 342) has drawn attention to a specimen from Rodriguez, collected in December 1873.

*Charadrius hiaticula tundrae* (Lowe): This species is not mentioned by Rountree *et al.* (1952). There is a specimen sexed female collected by Dr. W. H. Power at Cannonier's Point, Mauritius on 13th December 1864. Its wing-length is 125 mm. It is probably best named as above.

[to be continued]